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| H2M HILL Hanford Group, Inc. | Manual | HNF-IP-0842 |
| INACTIVE WASTE SITES | Volume | 18, Waste Management |
| | Section | 1.1, REV 1c |
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| | Issue Date | January 23, 2004 |
| | Effective Date | January 23, 2004 |
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| AUTHOR: | | M. E. Compau |

1.0 PURPOSE AND SCOPE

This procedure establishes the requirements for activities conducted within inactive waste sites (radioactive, non-radioactive, hazardous, and non-hazardous), including activities leading to the discovery of undocumented waste sites, annual surveillance and maintenance inspections, assignment of new waste sites, waste site transfers to other contractors, and waste site rejection/closure. Surveillance and maintenance is undertaken to ensure the public, workers, and the environment are protected from hazards. For the purpose of this procedure, an inactive waste site is defined as no longer in-service for the purpose of receiving or transferring waste. The fact that it contains or stores waste does not make it an active site. This differs from the Resource Conservation and Recovery Act of 1976 (RCRA) definition that classifies a site as active if it is listed on the Part A Permit. Inactive waste sites have no current or planned future use (out-of-service) and have been contaminated with hazardous substances.

The requirements in this procedure are based on standards established in the federal and state laws, U.S. Department of Energy (DOE) orders, and the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement), as well as CH2M HILL Hanford Group, Inc. (CH2M HILL) procedures. The requirements of this procedure do not apply to the operations of active (in-service) waste sites, burial grounds, or active treatment, storage, and/or disposal units. The requirements also do not apply to waste sites that have been closed out, rejected, or transferred by CH2M HILL to another contractor under Tri-Party Agreement Management Procedure TPA-MP-14, "Maintenance of the Waste Information Data System (WIDS)."

Inactive waste sites include:

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| Buildings | Flush Pits | Ponds | Trenches |
| Burial grounds | Foundations/slabs | Pump stations | Unplanned releases |
| Concrete piers/concrete | French drains | Reactors | Valve pits |
| Control structures | Land surface areas | Stacks | |
| Cribs | Outfalls | Sumps | |
| Diversion boxes | Pits | Tanks | |

2.0 RESPONSIBILITIES

2.1 Environmental Services

Responsible for approving/disapproving requests for using inactive waste sites for any purpose.

2.2 Operations

Responsible for the surveillance and maintenance of inactive waste sites within tank farm fences. However, the responsibility has been delegated, by mutual agreement, to the CH2M HILL WIDS administrator for the activities identified by this procedure.

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Completion of corrective actions and/or maintenance activities, as identified by surveillance and maintenance, is ultimately the responsibility of the facility owner but will be accomplished with the assistance of the CH2M HILL WIDS administrator.

2.3 Radiological Assessment

Responsible to provide guidance and interpretation of radiological issues and requirements for the CH2M HILL WIDS administrator, review completed surveillance and maintenance record packages as they are completed prior to file closure, and assist in the reporting and tracking of identified corrective actions.

3.0 REQUIREMENTS

3.1 Controls on Inactive Waste Sites

1. Process lines shall be isolated. As appropriate, to preclude an accidental release to an inactive waste site, isolation of process lines shall be documented and readily retrievable. For sites in which isolation has not yet been accomplished, a compliance plan or an administrative control plan to reduce the possibility of discharges to the site shall be prepared and followed. (6.1.9)
2. There shall be no liquid discharges. This includes non-radioactive discharges to inactive radioactive waste sites unless the discharge is part of an interim or final cleanup response. Water spray is allowed during earth moving operations, as required, for dust control. (6.1.9.b)
3. Inactive radioactive waste site boundaries shall be marked. Boundaries around unplanned release areas that have become disposal sites, shall be accurately and permanently marked. (6.1.11.a)
4. Inactive waste sites shall not be used for any other purpose. Prior written concurrence shall be obtained from CH2M HILL Environmental Services before using an inactive waste site for any other purpose (e.g., disposal of construction debris). (6.1.6, 6.1.17)
5. CH2M HILL Environmental Services and the Radiological Engineering manager shall be notified prior to initiating a non-routine activity in an inactive waste site. This includes actions such as stabilization, soil removal, fixative, or sealant application on an area greater than 5 acres. (6.1.1, 6.1.5, 6.1.8, 6.1.12)
6. Removed soils containing concentrations of contamination shall be documented and managed as radioactive, dangerous, or mixed waste. This includes radionuclides and chemical constituents in excess of established guidelines for residual contamination. Guidelines for residual concentrations of radionuclides shall be derived from the DOE basic dose limits by means of an environmental pathway analysis. HNF-SD-EN-TI-070, "Soil Concentration Limits for Accessible and Inaccessible Areas," describes the methods and assumptions used to base soil concentrations limits on potential radiation exposure to a member of the public. (See HNF-IP-0842, [Volume 6, Section 1.7](#), for additional requirements applicable to excavation of radioactive soils.)

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Chemical contamination levels shall be derived from regulatory requirements and include Dangerous Waste Regulations (WAC 173-303), Comprehensive Environmental Response, Compensation, and Liability Act (40 CFR 302.4), and the Model Toxic Control Act (WAC 173-340). (6.1.22, 6.1.23, 6.1.24)

Movement of these soils in excess of Comprehensive Environmental Response, Compensation, and Liability Act reportable quantities (40 CFR 302.5) constitutes a reportable action where such action causes off-site radiological and/or chemical dose limits to be exceeded or where these are not part of a planned, programmatic activity (refer to [TFC-ESHQ-ENV_FS-C-01](#) for requirements applicable to reporting to regulatory agencies). (6.1.7, 6.1.9.a, 6.1.10)

7. Excavation of soil containing radioactive material constitutes a modification to an existing waste site. This would require that a revision to WIDS be processed. If the excavation is not part of an existing waste site, a suspect waste site investigation and WIDS entry shall be initiated per TPA-MPA-014. Excavated soil (e.g., for pipe installation), though containing radionuclides, could be returned to its original location if the action is consistent with this procedure and as low as reasonably achievable (ALARA) principles. (6.1.18, 6.1.19)

3.2 Surveillance and Maintenance

1. Surveillance and maintenance of inactive waste sites shall be performed. This should occur at least annually to ensure that the radiological, chemical, and physical conditions are compliant with applicable standards (e.g., 10 CFR 835 and DOE 5400.1). Subsidence, erosion, biological transport of contamination, and other deficiencies (as noted from surveillances, inspections, and assessments) shall be identified and corrected. (6.1.8.b, 6.1.21)
2. Inactive waste sites shall be identified. Inactive waste sites shall be posted with signs identifying them as waste sites. At a minimum, signs shall have the applicable WIDS number and contact information. Inactive miscellaneous underground storage tank (IMUST) signs shall contain the WIDS number, IMUST number (if different from WIDS), contact information, requirement source ([HNF-SD-WM-TSR-006](#)), load lifting restrictions, and restricted access clearly printed on the signs. (6.1.14)

IMUST signs shall contain the following information: "Lifting over this site is not permitted per HNF-SD-WM-TSR-006. Contact CH2M HILL Central Command & Control (373-2689) for information." IMUST sites shall also have signage that reads: "Vehicles are prohibited from entry unless exempted or controlled per HNF-IP-1266, Section 5.7, **Safety Management Programs**." (6.1.15)

IMUST sites with zero loading restrictions shall have dome loading controls in place per HNF-IP-1266, Section 5.14, Dome Loading Controls. (6.1.16)

3. Maintenance of inactive waste sites. This shall include control of deep rooted vegetation that could provide transport of contamination to the surface through plant uptake. Subsidence, erosion, biological transport of contamination and other deficiencies (as noted from surveillance and maintenance activities) shall be corrected. (6.1.3)

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4. Integrity verification of signs and barriers around IMUSTs. Annual inspections shall be done during the surveillance and maintenance activities to ensure barriers are in place around the perimeter of the site and to ensure IMUST signs are secure. (6.1.15)
5. Inactive waste site files shall be maintained. The CH2M HILL WIDS administrator shall maintain site files which document the condition/status of waste sites, including all relative information. Records of the radiological and chemical conditions (i.e., status and characteristics of the surfaces of each site) shall be documented. Other traceable records of historical, radiological, surveillance and maintenance, and environmental characterization data for each site shall be maintained. Record copies will be kept in accordance with records inventory and disposition schedule (RIDS). (6.1.1, 6.1.8.b)

3.3 Changes of Ownership Responsibility

1. New and updated waste site information shall be documented. All changes or additions to WIDS information shall be submitted to the CH2M HILL WIDS administrator for transmittal to the site WIDS administrator. The CH2M HILL WIDS administrator shall act as the primary point of contact between CH2M HILL and the site WIDS administrator for WIDS-related matters. (6.1.18, 6.1.19)
2. All suspect waste sites and/or unplanned radioactive release sites shall be investigated, documented, and reported immediately. Notification shall be made to CH2M HILL Environmental Services and the CH2M HILL WIDS administrator for submittal to the site WIDS administrator. (6.1.6, 6.1.7, 6.1.11.b, 6.1.17)
3. Assignment, transfer, and closure of inactive waste sites. These activities shall be undertaken in accordance with TPA-MP-014. (6.1.6)
4. Issues associated with assignment or transfer of WIDS sites. Issues related to transfer or assignment of sites shall be brought to the attention of the Office of River Protection (ORP) for resolution. However, WIDS sight assignment dispute does not relieve the contractor from the responsibilities of performing a site walkdown assessment, followed by updates to WIDS information.
5. CH2M HILL acceptance of new sites. Acceptance shall be accomplished only by a formal directed change from ORP.

4.0 PROCEDURE

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| Operations | <ol style="list-style-type: none"> 1. To prevent accidental releases to inactive sites, identify facility lines that have not been isolated, capped, or sealed and may be potential discharge points. 2. Verify and document, generally through the Engineering Change Notice (ECN) process, that isolations have occurred, or prepare a compliance plan or an administrative control plan to reduce the possibility of discharges to the site. |
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3. Post inactive waste sites to prevent inadvertent entry, protect personnel from hazards, and to prevent the potential spread of contamination.
4. Accurately and permanently mark inactive waste site boundaries, including IMUST boundaries and unplanned release areas, that have become disposal sites.
5. As a minimum, conduct annual radiological and/or chemical contamination surveys of inactive waste sites that are considered to be radiologically contaminated. Sites which have been cleaned up or did not have radiological or chemical contamination are not required to be surveyed annually.
6. Inspect and document inactive waste sites to ensure that any deficiencies have been identified and/or corrected and that radiological and physical conditions are compliant with appropriate standards. Complete the Inactive Waste Site Surveillance Checklist ([A-6003-181](#)) to document current condition and any applicable corrective actions.
7. Take actions necessary to prevent contaminant migrations:
 - Keep all contaminated waste sites free of tumbleweeds
 - Remove other deep rooted vegetation when radionuclide uptake is detected or probable
 - Apply ALARA principles to hot-spot removal.
8. Obtain written concurrence from CH2M HILL Environmental Services before any use of an inactive waste site for any waste disposal purpose or activity that might adversely impact such a site.
9. Investigate, document, and immediately report all suspect waste sites, unplanned radioactive release sites, and movement of soil in excess of CERCLA reportable quantities to Environmental Services.

CH2M HILL WIDS
Administrator

10. Maintain WIDS site files of current and historical CH2M HILL inactive waste sites which include, at a minimum, the following:
 - WIDS general summary report
 - Map(s) of site location
 - Labeled photograph(s)
 - Any corrective action documentation generated as a result of the evaluation
 - Completed Inactive Waste Site Surveillance Checklist (A-6003-181).
11. Maintain the CH2M HILL WIDS database as a working tool for

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tracking surveillance and maintenance activities, corrective actions, site status, etc.

NOTE: The site WIDS database is the official WIDS database for the site.

12. Ensure CH2M HILL waste site information in the site WIDS database is maintained current and forward applicable information as it becomes available.
13. Initiate addition of newly identified areas into WIDS upon occurrence or discovery, and complete within 90 days.
14. Actively communicate with the site WIDS administrator on all issues regarding CH2M HILL inactive waste sites.
15. Ensure annual inspections of inactive waste sites are conducted and documented in accordance with this procedure, and obtain reviews from the Radiological Assessment subject matter expert, as appropriate.
16. Following identification of corrective actions, monitor completion of requested actions.
17. Facilitate official communications in regards to the assignment, transfer, or agreement on WIDS site ownership between CH2M HILL and ORP.
18. Following the official assignment of inactive waste sites from ORP, gather historical information about the site to determine the scope of work associated with the inactive waste site.
19. Ensure a surveillance and maintenance baseline is performed of newly assigned waste sites within 90 days of directed change from ORP.
20. Provide the site WIDS administrator all relevant information based on historical information, surveillance, maintenance activities, etc.
21. Upon receipt of ORP directed change for new sites, CH2M HILL will immediately place the new sites in the CH2M HILL WIDS database to commence surveillance and maintenance activities.

NOTE: In advance of funding, an operations directive will be obtained to fund activity. A Baseline Change Request will be submitted, as appropriate, for long term funding approval.

Environmental
Services

22. Conduct regulatory notifications as required in [TFC-ESHQ-ENV_FS-C-01](#).

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5.0 RECORDS

The following records are generated in the performance of this procedure:

1. Survey and inspection reports
2. Documentation on suspected waste sites; isolation; condition, status, and characteristics; concurrence for site use; maintenance activities; compliance plans or administrative plans
3. Waste Information Data System (WIDS) input.

Records shall be maintained in accordance with RIDS.

6.0 SOURCES

6.1 Requirements

1. 89-10, "Hanford Federal Facility Agreement and Consent Order." (S/RID)
 - a. Attachment 2, Section 6.5, paragraph 1.
 - b. Attachment 2, Section 6.5, paragraph 2.
 - c. Attachment 2, Section 6.5, paragraph 3.
 - d. Attachment 2, Section 6.5, paragraph 4.
 - e. Part 5, Article XXXI, Section 105.
2. 10 CFR 835, "Occupational Radiation Protection, Subpart G, "Posting and Labeling."
3. 10 CFR 835, "Occupational Radiation Protection, Subpart L, "Radioactive Contamination Control."
4. 40 CFR 30, "National Oil and Hazardous Substances Pollution Contingency Plan."
5. 40 CFR 264, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities."
6. 40 CFR 300.400, "National Oil and Hazardous Substances Pollution Contingency Plan."
7. DOE O 435.1, "Radioactive Waste Management."
8. DOE O 5400.1, "General Environmental Protection Program."
 - a. IV.5.b[1], "Environmental Surveillance."
 - b. IV.5.b[2][c], "Monitoring and Data Record Keeping."
9. DOE O 5400.5, "Radiation Protection of the Public and the Environment."
 - a. Chapter II.
 - b. II.3c.[2], "Management of Soil Columns, Natural Draining Systems, and Ground Water at Inactive Sites Previously Contaminated with Radioactive Material."
 - c. IV.4.a(1), "Residual Radionuclides in Soil, Hot Spots."

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10. DOE 5420.2A, Chapter III, "Radioactive Waste Management."
11. DOE O 5820.2A, "Radioactive Waste Management."
 - a. III.3.i.[9][b], "Radioactive Waste Management."
 - b. V.3.a.[1], "Radioactive Waste Management."
12. Executive Order 12580, "Superfund Implementation."
13. [HNF-5183](#), "Tank Farms Radiological Control Manual."
14. HNF-IP-1266, Tank Farms Operations Administration Controls.
 - a. Section 5.7, "**Safety Management Programs**."
 - b. Section 5.14, "Dome Loading Controls."
17. RCRA 3004(u), Resource Conservation and Recovery Act of 1976, "Continuing Releases at Permitted Facilities."
18. RL-TPA-90-100, "Tri-Party Agreement Handbook."
19. TPA-MP-14, Management Procedure, "Maintenance of the Waste Information Data System."
20. 42 USC, "Comprehensive Environmental Response, Compensation and Liability Act of 1980."
21. DOE O 430.1A, "Life Cycle Asset Management," Contractor Requirements Document.
22. 40 CFR 302.4, "Comprehensive Environmental Response, Compensation, and Liability Act."
23. WAC 173-303, "Dangerous Waste Regulations."
24. WAC 173-340, "Model Toxic Control Act."

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6.2 References

1. 40 CFR 302, "Designation, Reportable Quantities, and Notification."
2. HNF-IP-0842, RPP Administration, [Volume 6, Section 1.7](#), "Air Quality - Radioactive Emissions."
3. HNF-SD-EN-TI-070, "Soil Concentration Limits for Accessible and Inaccessible Areas."

4. [RPP-MP-609](#), "Waste Generating Plan."
5. [TFC-ESHQ-ENV_FS-C-01](#), "Environmental Notification."
6. [TFC-ESHQ-RP_MON-C-20](#), "Survey Method for Reposting Outdoor Areas."